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ABSTRACT

A study was done assessing the responses of 2,000 Hamden High School (Connecticut) graduates at three-, six-, and nine-year intervals after graduation to determine the extent to which the quality and availability of the high school instructional offerings affected their academic and occupational proficiency. Data collection involved (1) the gathering of transcript information, including academic and occupational course credit, and quality point ratios, and (2) surveying the graduates to obtain information about occupational mobility, occupational experience, monthly salary, post-high school education/training, institutions attended and the years attended, and attitudes toward the need for career and vocational education. Based on 419 responses, five conclusions were derived: (1) The graduates are college-oriented individuals, (2) participation in occupational courses did not change over a nine-year period, (3) the graduates were not achieving their post-high school occupational endeavors, (4) the graduates were achieving their post-high school education/training endeavors, and (5) positive attitudes toward occupational courses could be stimualted by programs demonstrating a relevance between the application of educational skills and occupational or career opportunities. It is recommended that the results be used for curriculum modification, program evaluation research, and inservice education strategy development. (The survey questionnaire is appended.) (EM)

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AN ANALYSIS OF GRADUATES' OCCUPATIONAL PATTERNS AS AN AID TO LOCAL PLANNING FOR VOCATIONAL AND CAREER EDUCATION

FINAL REPORT

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June 30, 1977

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DIVISION OF VOCATIONAL EDUCATION
RESEARCH AND PLANNING UNIT
HARTFORD, CONNECTICUT

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PREFACE

The purpose of this study was to assess the responses of high school graduates at selected intervals in order to determine the extent to which the quality and availability of instructional offerings during their tenure at Hamden High School affected their academic and occupational proficiency. This examination was conducted in terms of their general knowledge, attitudes, readiness to enter successful employment or post secondary education, and career and occupational mobility patterns.

An important objective of this study was to incorporate the results of the analysis into recommendations toward a more effective planning and implementation of career and vocational education programs in the Hamden school system.

The critical dilemma educators face is the determination of the content and direction of career and vocational education programs. Teachers, counselors, administrators, and school board members are expressing confusion as to program direction in the classroom, counselor's office, and administrative support. A significant contribution of this analysis is that of establishing a sound basis for curriculum planning.

Assistance from many persons was received at each of our research stages and we owe our gratitude to all. Invaluable help was rendered by the graduates who responded to our survey questionnaire. Special mention must be given

to the following individuals and departments:

The Connecticut State Department of Vocational Education for providing funds for the project.

The Hamden Board of Education for their approval of the project.

D. Edward Mas, Superintendent of Hamden Public Schools.

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Kathleen Reardon, Chairperson of Counseling Services at Hamden High School.

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Hamden High School

June 30, 1977

REPORT SUMMARY

This study had three (3) objectives: (1) to conduct a longitutinal study of graduates' occupational patterns at 3, 6, and 9-year intervals, (2) to assess the extent to which occupational preparation programs and graduates' occupational patterns are related, and (3) to incorporate these results into an implementation plan for Hamden vocational and career education.

Study data involved the gathering of information from transcripts of 2,000 graduates: sex, academic and occupational course credit, quality point ratios and graduate placement reports. Data procedures were also comprised of the preparation and distribution of questionnaires to these 2,000 graduates to obtain: occupational mobility, occupational experience, gross monthly salary, post-high school education training, institutions attended, and the number of years attended, and attitudes toward the need for career and vocational education.

Transcript examinations revealed that Hamden graduates were college-oriented with 51% and greater of each class pursuing high education activities. 25% of graduates entered the labor force immediately upon graduation. Males were found to expend an average of 15% of their senior year to occupational course credits as compared to females who expended 25% of their credits. Males were also found to have a higher quality point ratio than females during the senior year. There was a negative relationship found, the the 1973 class, between the number of occupational course credits and quality point ratio; a relationship not present for 1967 or 1970 graduates.

Questionnaire responses of 21% show that Hamden's 1973 graduates had become more occupationally mobile, were obtaining less full-time work experience, and smaller monthly salaries, than their predecessors. Graduates were furthermore becoming less mobile in their attendance of educational/training institutions and were spending the same number of years in those institutions as the others. Finally, all graduates were non-committal in their attitudes concerning the need for work-related education in high school and in their expressed feelings of the relevance of high school to their respective jobs.

Five conclusions were derived from these findings: (1) Hamden graduates are definitely college-oriented individuals, (2) participation in occupational courses did not change over a 9 year period of time, (3) graduates were not achieving their post-high school occupational endeavors, (4) graduates were achieving their post-high school educational/training endeavors, and (5) postive attitudes toward occupational courses could be stimulated by programs demonstrating a relevance between the application of educational skills to occupational or career opportunities.

Recommended application of these results are: curriculum modification techniques and rationale formation program evaluation with linear regression procedures, and the development of in-service staff education strategies. There was also a potential utility in the use of attitudinal measurements and their relationship to selected program factors for determining program impact.

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BACKGROUND OF THE PROJECT

Follow-up surveys of high school graduates have been traditionally conducted the February immediately following graduation. This survey produced data relative to placement rates and the general endeavors of former Hamden High students. Graduate data is no longer sought nor collected once these immediate placement rates have been ascertained. Information concerning the long range status of graduates is not readily available and must be gathered by special projects such as this one.

This project was conceived from the discovery that existing graduate data was insufficient for the development of an action plan for career and vocational education in Hamden. While available follow-up data provided a cumulative overview of graduate placement, it did not demonstrate a much needed longitudinal quality; i.e., patterns over an extended period of time. Action planning in Hamden required that graduate information not only reflected an annual placement rate but also whether that rate was a sustained one. For example, it is useful to acknowledge that 50% of a graduating class was college-placed or full-time employed, but was the completion or job stability rate proportionate? Data which addressed itself in this perspective would provide many more valuable insights into the efficiency of educational programming and the forecasting of anticipated directions.

Another purpose of this project was to determine whether certain demographic or life characteristics displayed by a graduate sample were related to attitudes about the need for career and vocational education in high school. An attitudinal index was obtained through responses to 15 statements on a Likkert scale and summated to produce an attitude quotient. Results of these analyses are presented later in this report.

Project Objectives. There were three (3) objectives which this project hoped to attain:

1. To conduct a longitudinal examination of graduates' occupational patterns at 3, 6, and 9 year intervals.
2. To assess the extent to which training programs and graduates occupational patterns are related.
3. To incorporate these findings into an action plan for Career and Vocational education.

These objectives were achieved and additional areas for research were generated which would further improve graduate follow-up processes.

Project Scope. The scope of this project was an ambitious undertaking which included both a simple examination of high school graduates and the development of an index for determining contributing factors to desired attitudes concerning the need for career and vocational education. Techniques used by this project should serve to further contribute to the improvement of the collection, analysis, and reporting of vocational system data for better planning and decision-making.

PROJECT METHODS

Research activities took place in three (3) major stages: Stage I - Data Collection and Compilation - gathering program information from transcripts of 2,000 graduating seniors. Stage II - Follow-Up Survey of Graduates - data from completed questionnaire distributed to 2,000 graduates. Stage III - Data Analysis and Report Preparation - publication and dissemination of research findings. Time allocation for these stages were from January to June, 1977.

The study was funded in full by a mini-research grant from the Research and Planning Unit of the Division of Vocational Education, Connecticut State Department of Education.

Determination of Research Sample. Financial, staff and time limitations prevented the inclusion of every graduating class in a 10-year period. It was decided that a random sample of graduating classes would provide sufficient information for generalization to all graduating classes. Graduate follow-up studies generally utilize interval sampling; i.e., 3, 6, 9 year intervals. Application of this technique produced the graduating classes of 1967, 1970, and 1973 as the project sample. This sample consisted of 2,000 graduates of Hamden High School over a 9-year span of time.

Involvement of Personnel. The staff consisted of a project director, research assistant, consultant and clerk-typist. Research directions, techniques and data needs were determined by the project director and consultant. All data collection

and compilation was conducted by the research assistant while formal reporting was done by the project director.

Hamden Public Schools contributed a great deal of in-kind personnel services. Time allotments for both the project director and consultant were under-estimated and required additional time. The Superintendent's office was also instrumental in providing this staff with the necessary clearance to handle student records. The Hamden High School Principal and the Chairperson of the Counseling Services Dept. provided our staff with access to the building and records room during non-operational school hours.

Study Procedures. Data collection was an extremely time-consuming process and was conducted in the stages mentioned earlier.

Stage I involved data collection from school transcripts for 2,000 graduating seniors in the classes of 1967, 1970 and 1973. The following information was obtained from student records: (1) sex, (2) age at graduation, (3) academic course credits (senior year), (4) occupational course credits (senior year), (5) parental occupations - mother and father, and (6) Quality Point Ratio - QPR expressed in percentile points. Scores from the Differential Aptitude Test were also to be used, however, there were so many missing data sets their use was discontinued.

Means and standard deviations for these variables were computed for each class. Tests of relationship were also

applied to determine whether existing relationships were significant. These analyses are shown in a later section.

Stage II necessitated the collection of current graduate information from members of the selected classes. This procedure involved the development of a study questionnaire and its distribution to the sample. The questionnaire was a locally produced instrument which was initially developed by the project director and consultant. Drafts of the survey were distributed to selected faculty members in the high school for their reactions. This process was conducted for 3 drafts before a final survey was accepted by project staff. Two thousand copies of the survey were reproduced as an in-kind contribution from the Learning Services Office of the Central Administration. The questionnaire, a cover letter describing the survey's purpose, and a stamped return envelope were mailed to the sample on April 1, 1977. A deadline of April 30, 1977 was established for the return of completed questionnaires. There were 420 responses or a return rate of 21% as of the April 30 deadline.

Data obtained through the survey consisted of: (1) perceived program of study - academic, general, occupational, (2) ethnic background - seven racial categories, (3) occupational mobility - number of full-time jobs held since graduation, (4) occupational experience - number of years of work experience, (5) gross monthly salary, (6) expressed relevancy of high school

program to jobs held, (7) educational mobility - number of institutions attended for education/training since graduation, (8) educational/training advancement - years of education or training since graduation, (9) attitude toward need for work related education programs - summated attitude score from 15 questionnaire statements on Likkert scale rating.

Means and standard deviations for these variables were computed for each graduating class. Correlation coefficients for variable relationships were also generated to determine probability and significance levels. The questionnaire, and cover letter mailed to graduates may be found in the appendix of this report.

An additional source of information was found in the official follow-up reports for each graduating class. These surveys were conducted by the Guidance Department and provided some basic insights into data findings. Stage III was completely a data analysis stage. All transcript information for the 2,000 graduates was computed with the high school computer. Analyses of questionnaire data was done with portable statistical calculators.

Analyses of data and this study's findings may be seen in the following section.

ANALYSES AND FINDINGS

Hamden High School is a large suburban comprehensive institution. The institutional curriculum consists of a myriad of program options. There was essentially no indentifiable vocational education program until 1973 when a formal program and coordinator was established by the Board of Education.

TRANSCRIPT DATA ANALYSES

Graduate Placement. In order to obtain a better perspective of Hamden's graduates, the annual graduate follow-up surveys conducted by the high school guidance department were compiled into TABLE I.

As one can see in Table I, Hamden's graduates are primarily college-oriented toward 2 and 4 year institutions. The number of graduates in full-time employment were slightly less than 25% of each graduating class; a percentage which did not vary greatly over the 9-year period.

TABLE I

HAMDEN HIGH SCHOOL GRADUATE FOLLOW-UP SURVEY

N = 1867

POST HIGH SCHOOL ACTIVITY	GRADUATE YEAR					
	1967	%	1970	%	1973	%
1. 4 Year College/University	294	52.97	339	52.15	377	56.95
2. 2 Year College	21	3.78	119	18.31	72	10.88
3. Full-Time Employment	124	22.35	106	16.31	126	19.03
4. Preparatory School	11	1.98	8	1.23	4	.60
5. Other Schools	68	12.25	Not Reported		Not Reported	
6. Armed Forces Enlistment	22	3.96	14	2.15	11	1.66
7. Un-Employed	13	2.34	17	2.62	5.	.76
8. Deceased	-0-		-0-		-0-	
9. No Response	2	.37	36	5.54	65	9.82
TOTAL	555	100.00	650	100.00	662	100.00

Source: Hamden High School
Guidance Department

Academic and Occupational Course Credits. The higher education orientation of the three graduating classes was further examined in the quantities of two types of course credits during their senior year. Student transcripts provided data displayed in Table II. An academic course is defined as one which is required for graduation, while an occupational course is one providing occupational or a vocational skill - Practical Arts.

Table II's findings indicate the proportion of academic to occupational credits did not appreciably vary over time. There was a slight increase for males in 1973, perhaps as a result of the installation of expanded vocational education programs that year. Females show a greater quantity of occupational credits at an almost unchanging rate over 9 years. Finally, the school system requires its seniors to maintain 22 course credits in order to graduate. This amount was consistently maintained over time.

Quality Point Ratio. A third variable obtained from student transcripts was the quality point ratio (QPR) or relative class rank in graduating class for seniors. This variable was converted to percentile points by project staff in order to alleviate descrepancies produced by a change in the computation of QPR during 1970. Quality point ratio distribution may be seen in Table III.

TABLE II

MEAN DISTRIBUTIONS OF ACADEMIC AND OCCUPATIONAL COURSE CREDITS FOR HAMDEN HIGH SENIORS IN THREE GRADUATION CLASSES

N = 1673

GROUP AND TYPE OF COURSE CREDIT	GRADUATING CLASS		
	1967	1970	1973
MEAN COURSE CREDITS - MALES			
Academic	20.32	20.46	18.83
Occupational	2.86	2.60	3.44
MEAN COURSE CREDITS - FEMALES			
Academic	18.59	18.75	17.86
Occupational	4.96	4.51	4.78
MEAN COURSE CREDITS - TOTAL GROUP			
Academic	19.46	19.58	18.32
Occupational	3.91	3.59	4.14

TABLE III

MEAN DISTRIBUTIONS OF QUALITY

POINT RATIO (Percentile Points) OF

HAMDEN GRADUATING SENIORS

N = 1673

STUDENT GROUP	GRADUATING CLASS		
	1967	1970	1973
MEAN QPR - MALES	54.48	53.17	48.69
Std. Dev.	29.58	27.05	26.89
MEAN QPR - FEMALES	42.98	41.50	56.51
Std. Dev.	27.98	27.56	26.21
MEAN QPR - TOTAL	48.74	47.14	52.79
Std. Dev.	29.34	27.90	26.80

There was a consistency in QPR's for males and females in the classes of 1967 and 1970. The class of 1973 showed a slight decrease for males and a slight increase for females. Males were generally found to have higher QPR's in two of the three graduating classes.

Test of Relationships Between Academic Credit, Occupational Credit and Quality Point Ratio. Correlational analyses were conducted on accumulated transcript data to determine whether any significant relationships existed. These tests may be seen in Tables IV, V, and VI respectively.

In Table IV the significant coefficients are to be expected since an increase in academic course credits would of necessity create a decrease in occupational credits and vice-versa. Similar significances at .01 level were maintained for both male and female seniors.

Table V presents the tests of relationship between academic course credit and quality point ratio. Negative coefficients, significant at .01 level of confidence, were found for the classes of 1967 and 1970 but not for 1973. This finding indicates that a greater academic course credit load was associated with improving a lower to average quality point ratio. Those seniors with a lesser academic course credit load had a tendency to show higher QPR's through completing required courses. The relationships became a postive significant (.01) coefficient for 1973. Both males and females showed similar significances in their variables' relationships, this no difference was found between sexes.

TABLE IV

RELATIONSHIP BETWEEN ACADEMIC AND OCCUPATIONAL COURSE CREDITS OF THREE (3) CLASSES OF GRAUATING SENIORS

N = 1673

GROUP	GRADUATE CLASS		
	1967	1970	1973
MALE SENIORS	-.7594**	-.6239**	-.6773**
n	277	217	319
FEMALE SENIORS	-.8629**	-.8539**	-.7123**
n	276	232	352

** .01 Significance

TABLE V

RELATIONSHIP BETWEEN ACADEMIC COURSE CREDIT AND QUALITY POINT RATIO OF THREE (3) CLASSES OF GRADUATING SENIORS

N = 1673

GROUP	GRADUATE CLASS		
	1967	1970	1973
MALE SENIORS	-.2094**	-.3744**	-.4216**
n	277	217	319
FEMALE SENIORS	-.3390**	-.3509**	-.2703**
n	276	232	352

** .01 Significance

TABLE VI

RELATIONSHIP BETWEEN OCCUPATIONAL COURSE CREDITS AND QUALITY POINT RATIO FOR THREE (3) CLASSES OF GRADUATING SENIORS

N = 1673

GROUP	GRADUATE CLASS		
	1967	1970	1973
MALE SENIORS	.2486**	.3995**	-.4193**
n	277	217	319
FEMALE SENIORS	.3733**	.3928**	-.4137**
n	276	232	352

** .01 Significance

The final test of relationships for transcript data - Table VI - was that of occupational credit verses quality point ratio. All coefficients were again significant at the .01 level for both males and females. However, a reverse trend from that of Table V was found: what had been a positive relationship; i.e., an increase in occupational credits was related with an increase in QPR, reversed itself to a negative coefficient in 1973 - those with more occupational credits had lower quality point ratios or those with fewer occupational credits had higher quality point ratios. This finding implies a possible tracking system taking place with the installation of a distinct vocational education program in 1973. Patterns were similar for both males and females.

Summary of Stage I Analyses. Transcript data and the school's annual follow-up reports provided the data for analyses reported in this section.

Since Hamden High School is a comprehensive high school; i.e., educational programming is done under the auspices of one curriculum design rather than separately tracked program offerings, students were non-identifiable in terms of an occupational, vocational or academic distinction. Therefore, each graduating seniors program was divided into academic or occupational course credits for comparison to a known standard - the Quality Point Ratio.

The findings of Stage I are:

1. Hamden graduates are definitely a college-oriented population with 51% or better engaging in 2 or 4 year higher education endeavors.

2. Less than 25% of Hamden's graduates engage in full-time employment immediately after high school.

3. Male seniors committed 15% of their senior year courses to occupational courses while females committed 25% of their schedules to similar courses.

4. Males generally exhibited a higher quality point ratio during their senior year than females.

5. There was an inverse relationship between number of occupational course credits and quality point ratio for the 1973 seniors but not 1967 or 1970.

These analyses and findings provided a basic characteristic description of the graduates of this study's sample. Stage II data analyses, information obtained by questionnaire is presented in the next section.

GRADUATE STATUS ANALYSES

Response Breakdown. Two thousand graduates from the classes of 1967, 1970,and 1973 were mailed a questionnaire and were asked to provide specific information about themselves. Four hundred and twenty responses or 21% were received 30 days later. Questionnaires are still being received as of June, 1977.

There were 114 responses from the class of 1967 - 34 (34%) male, 75 (66%) female. The class of 1970 produced 137 responses with 55 (40%) males and 82 (60%) females. 1973's class had 168 returns with 63 (37%) males and 106 (63%) females. This information showed a definite tendency of females to respond to questionnaires more so than males.

Perceived High School Program of Study. The comprehensive nature of Hamden High School prevented an identification of specific program tracks. Graduates were asked to indicate their perceived programs of study while in the high school. Three choices were provided: academic, general, and occupational. The class of 1967 reported: 80 - academic, 25 - general, 9 - occupational. The class of 1970 indicated: 101 - academic, 28 - general, 7 - occupational. Finally, the 1973 class indicated: 117 - academic, 37 - general, 13- occupational. There was very little proportionate change found in the perceived program of study for graduates of all three classes.

Ethnic Background. When responses were examined in terms of racial background, only three categories were reported: (1) Black, Afro-American or Negro - 1 graduate responding for each year, (2) White or Caucasian - 112 - 1973, 134 - 1970, and 166 - 1973 and (3) Other - 1 for each of 3 years. Hamden High School has not traditionally had a large number of minority group students. Estimate of approximately 5% minority (Black) students, during this study's time periods, have been reported by faculty members present during those years. Skewing of racial categories did not allow the use of ethnic background as a research variable.

Occupational Mobility. Graduates were requested to indicate the number of full-time jobs held since graduation. Table VII presents this data.

This comparison indicates that more recent graduating classes are in fact very mobile. The 1973 class had the same average number of jobs since their graduation four years ago as the 1967 class which graduated 10 years since. Therefore, Hamden's graduates appear to be more mobile over time in their occupational pursuits.

Occupational Experience. Responses to a questionnaire item of years of work experience for each full-time job held since graduation are seen in Table VIII.

The average number of years of work experience decreased proportionately over time. There was also a decreasing amount of variation for those means. Evidence once again points to

TABLE VII

MEAN NUMBER OF FULL-TIME JOBS HELD BY

HAMDEN GRADUATES SINCE COMPLETION

N = 419

VARIABLE	GRADUATE CLASS		
	1967	1970	1973
NUMBER OF FULL-TIME JOBS HELD BY HAMDEN GRADUATES SINCE COMPLETION OF SCHOOL.	2.61	2.39	2.08
STANDARD DEVIATION	1.45	1.55	1.36
n	114	137	168

TABLE VIII

MEAN YEARS OF WORK EXPERIENCE REPORTED

BY HAMDEN GRADUATES

N = 419

VARIABLE	GRADUATE CLASS		
	1967	1970	1973
MEAN NUMBER OF YEARS OF WORK EXPERIENCE.	6.26	3.96	2.83
STANDARD DEVIATION	2.76	2.02	1.46
n	114	137	168

the more recent graduating classes as in fact being more mobile than their predecessors.

Gross Monthly Salary. Another factor in graduates' occupational pattern is the gross monthly salary reported by respondents. Mean distribution may be seen in Table IX.

While each succeeding graduate class became more mobile with fewer years of work experience per job, there was also a decline in salaries found between the classes of 1970 and 1973. Recent graduates were therefore apparently earning less and staying shorter times on jobs after graduation.

Perceived Relevancy of High School to Jobs Since Graduation. Respondents were asked to indicate whether their high school programs assisted them in jobs they had held since graduation. A rating scale of 1 = No, 2 = Yes was used, compiled and averaged for all jobs.

Table X shows there was relatively little change in graduates' perceived relevance of their high school education to jobs they had held.

Education/Training Beyond High School. Information reported for this variable was primarily college/university attendance with military enlistment constituting a small portion of responses. Table XI reports the number of institutions attended for Education/Training since graduation while Table XII displays the Years of Education/Training acquired during that time.

TABLE IX

MEAN MONTHLY SALARIES OF HAMDEN GRADUATES

SINCE COMPLETION

N = 419

VARIABLE	GRADUATE CLASS		
	1967	1970	1973
GROSS MONTHLY SALARY OF GRADUATES.	$659.	$684.	$546.
STANDARD DEVIATION	$339.	$265.	$229.
n	114	137	168

TABLE X

GRADUATES' PERCEIVED RELEVANCE OF HIGH SCHOOL

EDUCATION TO JOBS HELD SINCE GRADUATION

N = 419

GRADUATE CLASS	PERCEIVED RELEVANCY OF HIGH SCHOOL 1.0 = NO.....1.5.....2.0 = YES
1967	1.57
Std. Dev.	0.49
1970	1.43
Std. Dev.	0.51
1973	1.41
Std. Dev.	0.44

TABLE XI

MEAN NUMBER OF INSTITUTIONS ATTENDED

FOR EDUCATION/TRAINING AFTER GRADUATION

N = 419

VARIABLE	GRADUATE CLASS		
	1967	1970	1973
MEAN NUMBER OF INSTITUTIONS ATTENDED SINCE GRADUATION	2.11	1.57	1.42
Std. Dev.	1.13	1.00	0.67

TABLE XII

MEAN NUMBER OF YEARS OF EDUCATION/TRAINING

ACQUIRED BY GRADUATES SINCE COMPLETION

N = 419

VARIABLE	GRADUATE CLASS		
	1967	1970	1973
MEAN NUMBER OF YEARS OF EDUCATION/TRAINING SINCE GRADUATION.	4.51	3.53	3.26
Std. Dev.	2.40	2.08	1.22

Tables XI and XII indicate that graduates were not as mobile as their predecessors in attending higher education or training institutions after high school. There was also a decreasing variation for more recent classes' attendance of these institutions. Table XII shows a slightly declining rate of higher education or training years after high school. There was also a decreasing amount of variation found for more recent graduates.

Therefore, Hamden graduates became less mobile in their educational pursuits over time and were demonstrating an average amount of training years than would be required for a college-oriented group to complete its programs.

Graduates' Attitude Toward Need For Career And Vocational Education. Final portions of the study questionnaire were designed to elicit personal opinions concerning work-related principles in high school programs. Expressions were rated on Likkert scale items from "completely disagree to completely agree" and rated on a 1 to 5 scale. 0 was assigned to a response left blank.

Table XIII presents the graduate classes' mean distribution on this variable.

Table XII demonstrates graduate attitude toward a need for career and vocational education did not vary much throughout the three year period, apparently regardless of identifiable occupational patterns. This finding implies that graduate attitudes are not apparently shifting in favor

TABLE XIII

GRADUATES' ATTITUDES TOWARD THE NEED FOR CAREER AND VOCATIONAL EDUCATION

N = 419

	GRADUATE CLASS		
	1967	1970	1973
EXPRESSED ATTITUDE TOWARD NEED FOR CAREER AND VOCATIONAL EDUCATION. 1 = Completely Disagree 2 = Completely Agree	3.31	3.21	3.11
Std. Dev.	0.44	0.44	0.53

of career and vocational education but rather are remaining un-committed and may possibly be influenced by a strong, directed program approach.

Factors Influencing Attitude Toward Work-Related Programs. The variables described in this section were subjected to tests of relationships for potential factors which might in fact contribute to attitudinal changes for work-related education.

Table XIV presents a composite summary of correlation coefficients for the respective analyses conducted.

The class of 1967 showed significant relationships between graduates' attitudes toward need for career and vocational education and occupational experience (.01), gross monthly salary (negative at .01) and education/training achievement (.05). More positive attitudes of 1967 graduates were found to relate to those with greater years of work experience. An inverse relationship was found between graduate attitudes and gross monthly salary; i.e., those graduates with greater monthly salaries generally showed an attitude with a negative tendency. Finally, 1967 graduates' attitudes were found to be positively related to years of education/training after high school.

The class of 1970 was found to have only one significant relationship between the graduates' attitude and the perceived relevancy of high school education to their jobs. There were no other acceptably significant relationships found for this class.

TABLE XIV

RELATIONSHIPS BETWEEN ATTITUDE TOWARD NEED FOR CAREER AND VOCATIONAL EDUCATION AND SELECTED GRADUATE VARIABLES

N = 419

GRADUATES' ATTITUDE TOWARD NEED FOR CAREER AND VOCATIONAL EDUCATION	GRADUATE CLASS		
	1967	1970	1973
1. VS. OCCUPATIONAL MOBILITY	-0.0928	-0.0087	-0.0684
n 1	110	135	87
2. VS. OCCUPATIONAL EXPERIENCE	.2666**	-0.0113	0.1788*
n 2	101	135	83
3. VS. GROSS MONTHLY SALARY	- .8621**	0.0130	0.0464
n 3	93	116	72
4. VS. PERCEIVED RELEVANCY OF HIGH SCHOOL	0.0783	0.1949*	0.1881
n 4	98	117	80
5. VS. EDUCATIONAL MOBILITY	-0.1887	0.0035	-0.0543
n 5	106	134	149
6. VS. EDUCATION/TRAINING ACHIEVEMENT	0.2048*	0.0163	0.0114
n 6	113	136	148

* .05 Confidence
** .01 Confidence

The class of 1973 did not display any significant coefficients in the relationships between graduate attitudes and selected variables of this study. There was a tendency for fewer coefficients to be negative with this class however.

This analyses findings indicate that a maturity process is perhaps the greatest influence on attitudes toward career and vocational education; i.e., maturity in terms of work experience, monthly salary and years of educational/training achievement. More recent graduate classes did not sufficiently display the effect of time upon attitude. Therefore, career and vocational education program approaches should utilize those community individuals as influences, who are most work-wise and practical as opposed to those outstanding members of a social community.

Summary of Follow-Up Survey Findings. Analysis of questionnaire data described earlier produced these findings:

1. Hamden's graduates have been occupationally mobile but are spending relatively short times on jobs and are subsequently earnig less than their predecessors.

2. Hamden's graduates are non-committal about the relevance of their high school education to occupational pursuits.

3. Graduates have become less mobile in the attendance of institutions of education or training and are also showing a decline in years of attendance in these institutions.

4. Graduates are also non-committal in their expressed attitudes toward a need for career and vocational education.

5. The effect of occupational and educational maturity upon graduate attitudes is a powerful one. Experience and training does in fact appear to produce desirable attitudes toward a need for work-related education.

The implications of these findings highlight a need to prepare occupational program graduates for an occupational diversity and stability in preferred goal pursuits, In sum, the tenets of a sound career-oriented process, coupled with a diversified vocational education program in a comprehensive high school should serve to greatly enhance the ability of Hamden's graduates to actively pursue life goals.

CONCLUSIONS

There were five (5) conclusions drawn from the findings reported in preceding sections of this report:

1. The Hamden graduate is in fact a college-oriented individual.

2. Participation in occupational courses did not change throughout the 9 year period.

3. Hamden graduates are not achieving their post high school occupational endeavors.

4. Hamden graduates are achieving their post high school educational/training endeavors.

5. Positive attitudes toward occupational courses may be stimulated by a systematic demonstration of high school program relevance to occupational or career goals.

In short, Hamden High School provided its students with a consistent standard of education throughout the 9 year period examined. It was apparent these standards were academically-oriented and their products college-inclined. While these standards may have been appropriate for earlier graduates, changing social and economic conditions required graduates with basic occupational and academic skills. Hamden's graduates were amply provided with the latter but were deficient in the former. These stated conclusions are discussed in greater detail in the next section.

Conclusion I. Hamden High School is not unlike other Connecticut high schools in its pursuit of academic goals. Nor are its unlike those of other areas in their pattern of being college bound. This was to be expected since the

educational process tends to be a sequential one; i.e., one previous stage generates a need for another. Data analyses show a consistent rate of college placed graduates. Responses to this study's questionnaire also confirmed placement reports as the majority of responding graduates reported attendance in at least one higher education institution.

This conclusion is not intended to criticize the emphasis of Hamden's graduates or those of the school system. There is however a possible descrepency occurring between the encouragement toward higher education and the occupational pattern of graduates. This is discussed in conclusions 3 and 4. This conclusion alludes to the probability that attitudes, values and institutional programming may have reflected the academic priorities observed in graduates; perhaps to the detriment of less-than-college-preparation programs.

Conclusion II. Participation in occupational courses did not change significantly over the years. This was not expected since a normal growth over time was anticipated to occur in school programming. Data shows a levelling effect occurring in terms of the academic to occupational course credit ratio remaining steady over time. This would indicate that Hamden students were fulfilling minimum requirements in terms of occupational elective courses in Business Education, Home Economics, and Industrial Arts. The unchanging variations in course credit data do not substantiate that school programming

encouraged students to balance their academic preparation with occupationally-relevant skills.

This implication, coupled with that for Conclusion 1, lends credence to the probability that academic preparation for further education may have been heavily stressed as a high school goal. Comprehensive high school was expected to prepare individuals for a livelihood which would or would not require a college education. Graduate statistics demonstrate this was not the case and occupational courses were not, in all probability, encouraged for a student population which was obviously college-directed.

Conclusion III. The graduates' occupational patterns indicated a definite need for personal career planning and diversified training for future goals in high school. It was expected the occupational stability of graduates would increase over time as preparation became more realistic to their personal needs. This realization was in turn expected to produce a consistency with earlier graduates who reflected a stable job quality after many years.

1973 graduates appeared to be more susceptible to a changing economy than their 1967 and 1970 predecessor. This may have been the result of the consistent preparation for academic pursuits by the high school while changing economic conditions required a graduate equipped with at least a minimal occupational skill.

Graduates expressed a great deal of frustration with

their high school programs' academic nature. Many felt they should have been assisted in developing primary goals with options for which they were equipped rather than just the theoretical preparation they received. Comments were furthermore directed toward a desire to have obtained at least basic work-related skills which might have, in the graduates' opinions, prevented the difficulties they encountered in seeking preferable employment.

Conclusion IV. Hamden's graduate data on post high school educational/training patterns substantiates that the graduates are in fact achieving their educational goals. The question raised by this study was whether reported placement rates of post high school educational endeavors were in fact being sustained over time. This study found that Hamden's graduates do in fact sustain their educational endeavors to completion.

While economic conditions most likely contributed to the occupational patterns direction, it apparently had little effect on the educational patterns of graduates. There was a consistent percentage of graduates who were college-placed over the 9 years. Mobility between institutions decreased, perhaps the result of financial restrictions, over time. Graduates were still maintaining an average number of education/training years consistent with their earlier colleagues.

Examinations of specific occupations engaged in by graduates were not found to be consistent with the amounts

of education and training received. This was most likely due to the economic influence. It also appeared that Hamden graduates were not continuing their academic endeavors beyond that necessary to obtain basic credentials. This pattern indicates graduates were not retaining their academic-orientation beyond college and were entering the labor market at this point. It may also have been the result of a combine "cost plus practicality" effect on the part of the graduate.

Conclusion V. All three graduating classes were found to be non-committal in their perceived relevance of high school to jobs held. A similar pattern was found for attitudes toward a need for career and vocational education in high school. This non-committal nature was puzzling and did not appear logical.

Closer examination of data revealed that graduates were making distinctions between the concepts "jobs, vocations, careers, and professions"; the order of importance-low to high respectively. This examination revealed that possible interactive effects between personal values, social attitudes, and life experiences were leaving graduates in an uncertain state as to the value of their high school education or the need for work-related skills.

It would be expected these attitudes would be favorably stimulated by developing a school/system perspective which clearly demonstrates relationships between programs of study, methods of preparation, and personal planning.

These components, coupled with community associations comprised of former students, would most likely create the impetus necessary to alter attitudes and values of school programming. Existing priorities should be maintained with interrelationships between the academic and occupational aspects highlighted for students and reflected in their programs of study.

Summary of Conclusions. Hamden High School graduates have achieved the academic standards provided for them by the institution. However, graduates are becoming increasingly susceptible to changing conditions as a result of an overemphasis of these standards and a failure to demonstrate where the products of academic achievement may be applied. There is a divergence between the occupational and educational patterns of these graduates. Former students were noncommittal about the value of their education and also about the need for work-related programs. Efforts on the part of the chool to demonstrate a relevance between its programs and area opportunities are expected to stimulate positive attitudes of future graduates.

RECOMMENDATIONS

It is recommended that the results of this study be used in the following ways:

1. Curriculum Modification
   A curriculum is generally subservient to those it serves. A systematic graduate follow-up survey conducted on a longitudinal basis could effectively serve as the basis for design modifications and for identifying developmental areas.

2. Program Evaluation Research
   An identified series of performance indicators could be derived from graduate responses to a structered instrument. Highly related indicators could then be examined in terms of their predictive ability for current student or program performance.

3. In-Service Education Strategy Development
   During the course of this survey, comments were made by the respondents about programs, staff, departments, etc. The intensity and frequency of graduate opinions will serve as the basis for developing an in-service program of staff education relative to career and vocational education.

This study also involved the use of attitudinal statements relative to selected occupational and educational characteristics. Although these statements did not yield information which could be applied to further research, there is a sound basis for developing and using such a device to determine community impact, committee formation, etc. Further development of this technique will be undertaken by these writers for use in assessing the impact of career and vocational education in the Hamden community.

APPENDICES

GRADUATE SURVEY MATERIALS

Cover Letter

Study Questionnaire

HAMDEN HIGH SCHOOL

2040 DIXWELL AVE., HAMDEN, CONN. 06514

PRINCIPAL
ROLFE W. WENNER

ASSISTANT PRINCIPALS
ALBERT ALEXANDER
DANIEL CARUSO
ROBERT HANSEN
~~XXX RUSSELL GARRYX~~
George Conquest

March 31, 1977

Dear Graduate:

It has been several years since you graduated from Hamden High and have had the opportunity to apply your education to preferred goals.

We are conducting a survey of Hamden graduates of 1967, 1970 and 1973 to determine just what has taken place with your educational, occupational and personal plans. This information will be used to help school staff plan programs which may help future graduates reach their life goals.

Would you please take a few minutes to complete the attached follow-up survey? After completing, please return in the enclosed, stamped, self-addressed envelope by April 30th, 1977.

Thank you for your cooperation. Should you have further questions concerning this survey, please call either of us at 248-9311 after 2:30 P.M. daily.

Sincerely,

Edmund J. Palleria
Vocational Education
Coordinator

John C. Salas
Career Education
Specialist

mdp
Att.

GRADUATE FOLLOW-UP SURVEY

Hamden Public Schools

TO GRADUATES: Your assistance is requested in providing us with information about yourself and your plans. This information will be used only to plan future programs which may aid Hamden graduates prepare for their futures. All information will be kept confidential. Thank you.

Personal Information

Name: _____
Last First Middle/Maiden

Home Address: _____
Number Street

_____
City State Zip Code

Home Telephone: _____
area code number

Year Graduated: (circle one) 1967 1970 1973

High School Program (check one): a. Academic ____
b. General ____
c. Occupational ____

Ethnic Background (check one):
A. American Indian ____
B. Black or Afro-American or Negro ____
C. Mexican-American or Chicano ____
D. Oriental or Asian-American ____
E. Puerto Rican ____
F. White or Caucasian ____
G. Other ____

Occupational Information

Occupational History: List all full-time jobs and other information below starting from your first occupation after high school graduation. Use last page, if necessary.

Position, Title, or Rank	Dates of Employment		Place of Employment		Gross Monthly Salary	Did your high school education help in this job?	
	From	To	City	State		Yes	No
1.							
2.							
3.							
4.							
5.							
6.							

Educational Information

Educational/Training History: List any school, institution, college or training facility which you have attended since graduating from high school. Use last page, if necessary

Institution, Agency, Institute School, College or University	Years Attended		Training Program, Preparation or Major Subject	Did you complete this program?		Reason for Pursuing Additional Education	
	From	To		Yes	No	Job-Related	Voluntary
1.							
2.							
3.							
4.							
5.							
6.							

Personal Opinions

Read each of the following statements and place a checkmark (✓) in the column on the right which best describes how you feel.

Opinion Statements	Completely Disagree	Partialy Disagree	Doesn't Matter	Partially Agree	Completely Agree
1. The courses I had in high school helped me become what I am today.					
2. My high school education helped me make job changes when I needed to make them.					
3. My high school program provided me with very few job skills I needed.					
4. I had to get job training after graduation in order to get and keep a job.					
5. I am generally satisfied with my present job.					
6. I am satisfied with my high school education.					
7. I considered myself a good student in high school.					
8. My attitude(s) about work has changed over the years.					
9. I consider myself to be successful in my life objectives.					
10. I am not sure what my goals in life really are.					
11. Hamden High's programs should continue as when I was there.					
12. Hamden High should change by increasing its vocational and career education programs.					
13. I want my children to have job training while in high school.					
14. My high school courses prevented me from becoming what I wanted.					
15. My present job is directly related to my high school preparation.					

Additional Comments

Thank you for your cooperation in completing this survey. You may use the remaining space to comment on factors which we may not have covered in the survey.